

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-20. (canceled)

21. (new) A method of introducing at least one nucleic acid into one or more target cells, with the passage of a supernatant, wherein nucleic acids are originally maintained, passed through a collection of target cells, said method comprising the steps of

- a) providing isolated target cells in a reaction vessel, wherein said target cells are capable of allowing entrance of or actively take up nucleic acids;
- b) providing a supernatant comprising nucleic acids;
- c) contacting the nucleic acids with the target cells by passing the supernatant through a reaction vessel so as to provide a fluidized or semi-fluidized bed of target cells in the reaction vessel,

wherein the flow of supernatant through the reaction vessel is controlled to provide essentially constant conditions in the reaction vessel allowing a sufficient contact area and time to

enable transfer of nucleic acids from the supernatant into target cells.

22. (new) The method according to claim 21, wherein said nucleic acid is DNA.

23. (new) The method according to claim 21, wherein said nucleic acid is RNA.

24. (new) The method according to claim 21, wherein the nucleic acids prior to step c) have been conjugated to a ligand and the target cells express a receptor for said ligand.

25. (new) The method according to claim 21, wherein the nucleic acids are originally maintained within particles in the supernatant.

26. (new) The method according to claim 25, wherein the particles are capable of interaction with the surface of a target cell.

27. (new) The method according to claim 25, wherein said particles are virus.

28. (new) The method according to claim 25, wherein said particles are retrovirus.

29. (new) The method according to claim 25, which further comprises a step for the production of the particles.

30. (new) The method according to claim 25, which further comprises a step for producing the particles in a virus-producing cell line.

31. (new) The method according to claim 21, which further comprises a step for separation of undesired material from the supernatant, wherein said undesired material is selected from the group consisting of cells producing organic molecules and particles comprising organic molecules.

32. (new) The method according to claim 21, which further comprises a step wherein a sample of target cells is withdrawn and analyzed as regard to whether or not nucleic acids have been introduced therein, and, if required, the value of the flow rate through the vessel is reset to adapt the efficacy of transfer of nucleic acids into target cells.

33. (new) The method according to claim 21, wherein a direction of the supernatant is provided, which essentially counteracts the gravitational force of the target cells.

34. (new) The method according to claim 21, wherein a direction of the supernatant is provided, which essentially counteracts a force applied on the target cells.

35. (new) The method according to claim 34, wherein the force applied on the target cells is a centrifugal force.

36. (new) The method according to claim 21, wherein the supernatant is passed more than one time through the target cells.